

SN.10/760,116

ATTORNEY DOCKET NO. FUJI:286

IN THE SPECIFICATION

*Please replace paragraphs 21, 41, 42, and 51 with the following replacement*

*paragraphs:*

--[0021] The IC chip 11 and the capacitor element are electrically connected through the electrodes 6a and 6b formed at the periphery of the magnetic insulating substrate 1. In the drawing, reference numeral 2 denotes a connection conductor formed in a through hole; 16, a protection film; 16a, an opening (which becomes a pad) of the protection film, for fixing a stud bump; 17, a stud bump formed on the IC chip; and 18, an under filling. The connection conductor 2 electrically connects the side electrode 6a and the reverse side electrode 6b. In addition, the stud bump 17 is used for fixing the IC chip 11 and the electrode 6a, and the under filling 18 is filled in the gap between the IC chip 11 and the inductor and is used to further intensify the fixation of these.--

--[0041] Next, the IC chip 11 as a power IC is connected to the electrode 6a formed on the inductor substrate. Its connection method is such that the stud bump 17 is formed on the electrode (pad) of the IC, and the IC chip 11 is connected to the electrode 6a of the inductor by ultrasonic connection (Fig. 4(g)).

[0042] Next, the fixation of the IC chip 11 and the inductor is reinforced by the under filling 18, and cutting is performed at dotted line places, so that the microminiature power converter is completed. As a connection method of the IC chip 11 and the inductor, here, the stud bump 17 and the ultrasonic connection were used, however, it is not limited to this, and soldering connection, conductive binding material or the like may be used. It is preferable to use a method in which connection resistance of the connection part becomes as small as possible. Although the under filling material was used to reinforce the fixation, a material may be selected as the need arises, and a sealing material such as an epoxy resin may be used. These are used to fix the respective elements and to obtain long reliability against disadvantage caused by the influence of moisture or the like, and they do not influence the initial characteristic itself of the power converter, however, it is preferable that they are formed in view of long reliability (Fig. 4(h)).--

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--[0051] In the microminiature power converter of Fig. 2, the electrode 6a of the inductor is formed to reach the outer peripheral end of the magnetic insulating substrate 1, and the electrode 6a and the protection film 16 are in direct contact with each other and cover except for the opening 16a. In the case where the resist protection film is used as the protection film 16, since the adhesion force between the electrode 6a and the resist protection film is small, moisture penetrates from the interface (interface of the outer peripheral end of the magnetic insulating substrate 1) between the electrode 6a and the resist protection film, and in a solder reflow process as a subsequent process or an acceleration test of a heat cycle or the like, there is a case where a rupture occurs at the interface between the stud-bump 17 and the electrode, and high reliability can not be always obtained. Next, embodiments to solve that will be described.--